

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

EATON CORPORATION,

Plaintiff,

Case No. 03-74844

vs.

HON. GEORGE CARAM STEEH

ZF MERITOR LLC, ARVINMERITOR,
INC. and ZF FRIEDRICHSHAFEN AG,

Defendants.

ORDER GRANTING PLAINTIFF'S MOTION FOR RECONSIDERATION
OF COURT'S ANTICIPATION FINDING AS TO CLAIMS 8 AND 9 OF '350
PATENT AND FINDING ISSUE OF FACT AS TO OBVIOUSNESS [DOC NO. 220]
AND DENYING PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT OF
LITERAL INFRINGEMENT OF '350 PATENT [DOC NO. 123]

The parties appeared before the Court on September 5, 2007 to argue plaintiff's motion for reconsideration of the finding in the May 31, 2007 Order that Claims 8 and 9 of the '350 patent are invalid as anticipated. The Court also heard argument on defendants' response that Claims 8 and 9 are invalid due to obviousness.

I. Anticipation

The '350 patent, entitled "Automated Clutch Control and Calibration", relates to method and apparatus for reengaging a clutch in a truck transmission system after the clutch has been disengaged. The essence of the invention is a way to shorten the distance the clutch has to move between events of engagement and disengagement. In its Order of May 31, 2007, the Court found, in relevant part, that the prior art reference Cote anticipated claims 8 and 9 of the '350 patent. Plaintiff seeks reconsideration of this part of the Court's Order.

Local Rule 7.1(g)(3) of the Local Rules of the United States District Court for the Eastern District of Michigan provides:

[M]otions for rehearing or reconsideration which merely present the same issues ruled upon by the court, either expressly or by reasonable implication, shall not be granted. The movant shall not only demonstrate a palpable defect by which the court and the parties have been misled but also show that a different disposition of the case must result from a correction thereof.

The Court agrees that reconsideration is warranted in this case.

Claim 8 of the '350 patent is an independent claim that requires determining a touch point (TP), determining an approach point (AP), and causing the clutch to remain at the AP while awaiting a clutch engagement command. Claim 9 is dependent on Claim 8 and requires that upon determining that clutch engagement is required, moving the clutch rapidly to the TP, and then causing further clutch engagement in a controlled and modulated manner.

The prior art Cote reference describes rapidly moving the clutch from the fully disengaged position to the incipient engagement position or a point of almost incipient engagement. The Court previously found that the point of incipient engagement is the touch point, and the point of almost incipient engagement corresponds to the approach point, and thus anticipates the '350 invention. However, because Cote does not utilize them as separate points, always referring to them together in the alternative, the Court erred.

Certainly Cote recognizes that "almost" incipient engagement is different than incipient engagement. However, Cote does not teach using both a point of incipient engagement and a point of almost incipient engagement. Rather, Cote clearly describes the clutch moving rapidly from the fully disengaged position to the position of

incipient or almost incipient engagement, and then to fully engaged in a modulated manner:

The present invention relates to an improved automatic clutch control method and system, typically having a modulated engagement mode wherein the master friction clutch is moved rapidly from the fully disengaged position to **the position of almost incipient, or about incipient, engagement** and then fully engaged in a modulated manner and wherein the position of almost incipient **or** incipient engagement **is** determined by the value of a monitored clutch parameter . . .

(‘350 Patent, col. 1:14-23) (emphasis added).

Claims 8 and 9 teach dwelling at the AP while awaiting a clutch engagement command and then moving rapidly to the TP before modulating to full engagement. Cote does not teach dwelling at the AP or point of almost incipient engagement while awaiting a further clutch engagement command as required in Claim 8. Cote, on the other hand, teaches rapid movement from fully disengaged to incipient or almost incipient engagement, and then modulating to fully engaged. Cote simply does not describe using both an AP and a TP during clutch control, and in any event, never teaches moving rapidly from an AP to the TP after waiting at an AP.

The Court erred in finding that Claims 8 and 9 of the ‘350 patent were anticipated by Cote.

II. Obviousness

A. Preliminary Matters

Plaintiff objects to permitting defendants to argue obviousness in response to plaintiff’s motion for reconsideration on the issue of anticipation. Plaintiff contends that it is improper for defendants to bring a “new” obviousness motion in the context of a response to a motion for reconsideration. The Court will consider defendants’ obviousness arguments, which were raised in their original motion for summary

judgment of invalidity, filed October 11, 2006 (Doc. 125), but not addressed by the Court at that time. Of course, the very recent decision by the United States Supreme Court in KSR Int'l Co. v. Teleflex, Inc.¹ requires substantial changes in the legal analysis of an obviousness claim from preexisting Federal Circuit case law.

Defendants urge the Court to strike the Declaration of Edward M. Caulfield, pursuant to KSR, which was attached to plaintiff's reply in support of its motion for reconsideration, and is dated July 16, 2007. Defendants argue that the deadline for exchanging rebuttal expert reports was March 31, 2006. While the Court appreciates the merit in these arguments made by defendants, both sides have had ample opportunity to present on this issue and to respond to each others' arguments. Thus, the Court is going to permit the late-filed declaration of Dr. Caulfield in the interest of having a complete record on the issue of obviousness.

B. Are Claims 8 and 9 Invalid for Obviousness Under § 103?

The principle underlying § 103 is that if an invention would naturally follow from combinations or applications of prior art, then it does nothing to promote the progress of the art regardless of its novelty or usefulness. In Graham v. John Deere Co., 383 U.S. 1 (1966), the Supreme Court interpreted § 103 to meet the constitutional standard for obviousness. Three inquiries were drawn directly from the language of the statute: (1) the scope and content of the prior art, (2) the level of ordinary skill in the art; and (3) the existence of any differences between the claimed invention and the prior art as it existed at the time of invention. The Court also found that other traditional factors, such as long-felt but unmet needs, the failure of others, and commercial success, may be

¹ ___ U.S. ___, 127 S.Ct. 1727 (2007).

relevant to whether the claimed invention was obvious. The Federal Circuit, in its decisions, recognized that an inquiry into the obviousness of an invention posed the risk of using hindsight to invalidate patents. That court therefore developed what became known as the teaching, suggestion, or motivation (TSM) test, which requires a finding of some basis, from the perspective of a person of ordinary skill in the art at the time of invention, for combining prior art references.

In KSR Int'l Co. v. Teleflex, Inc., the Supreme Court clarified the standard for obviousness under § 103, and particularly the TSM test as developed by the Federal Circuit. ___ U.S. ___, 127 S.Ct. at 1734-35, 1739. The Court held that an obviousness determination does not require rigid application of the TSM test, not even at the summary judgment stage. Id. at 1739, 1741. The Court recognized that a specific teaching, suggestion, or motivation to combine prior art references may not exist because “it often may be the case that market demand, rather than scientific literature, will drive design trends.” Id. at 1741. Instead, testimony from expert witnesses may be considered to understand why it would have been obvious to one of ordinary skill in the art to combine the prior art in a particular way. “[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” Id. “If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.” Id. at 1740. “Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.” Id. at 1741.

Defendants argue that claims 8 and 9 are obvious in view of Cote and Nakadani.

Cote teaches the step of determining a TP. Dr. Davis and Dr. Caulfield agree on this point, and the '350 acknowledges this teaching in the Cote disclosure. The other two steps of claim 8 are described in Nakadani, which teaches determining an AP and causing the clutch to assume and remain at the AP while awaiting a clutch engagement command. Defendants maintain that it was obvious to combine Nakadani for determining an AP and dwelling at that AP with Cote for determining a TP.

Claim 9 adds the feature of moving the clutch rapidly to the TP and then further engaging the clutch in a modulated and controlled manner. Defendants allege that the background section of the '350 patent admits that causing the clutch to move rapidly **to** the TP condition and then causing further clutch engagement in a controlled and modulated manner was known in the art at the time of the invention. Plaintiff, on the other hand, points out that Cote teaches moving rapidly **from the fully disengaged** to the TP, while claim 9 requires moving rapidly **from an AP** to the TP. The parties agree that the prior art taught that rapid movement of the clutch ends at the TP, at which point modulation occurs, but disagree on whether the starting point of the rapid movement would have been obvious in light of the prior art.

Plaintiff contends that the content of the prior art is in dispute because its expert, Dr. Caulfield, disagrees with Dr. Davis as to whether Nakadani describes an AP. However, the Court has already determined that Nakadani teaches C2, which is an AP based on the claim construction in this case. This finding has not been challenged by plaintiff.

Plaintiff also disputes that there was a reasoned basis for combining the two references, as required by KSR. Plaintiff stresses that Cote teaches moving the clutch from the fully disengaged to the incipient engagement position rapidly:

As the clutch 16 can exercise no control over the system during that portion of engagement when it moves from the fully disengaged to the incipient engagement position, it is highly desirable to move the clutch as rapidly as possible between these positions.

(‘350, col. 8:20-25). Since Cote teaches uncontrolled rapid movement between the fully disengaged position and the TP, it teaches the opposite of dwelling at AP followed by rapid movement from AP to TP. For an obviousness analysis of what one of ordinary skill in the art at the time of the invention would do, the other teachings of the prior art have some relevance. In other words, it is relevant to ask why one of ordinary skill would choose one teaching from a particular prior art reference, but reject another teaching from the same reference.

Dr. Davis explained that both Cote and Nakadani were intended to solve the same problem in vehicle powertrain systems by reducing the duration of torque interruption during a shift. Davis points out that several prior art references taught causing the clutch to assume and remain in a holding or standby position while awaiting a clutch engagement command. (Davis Decl. ¶ 89, referring to Tateno, Nakadani, Watanabe). Each of those references included a figure illustrating this “assuming and remaining” at a position slightly less engaged than the touch point. Davis opines that one of ordinary skill in the art would have been motivated to combine Cote with Nakadani. (Davis Decl. ¶¶ 85, 90, 96).

In his declaration, however, Dr. Davis offers only general statements that it would have been obvious to combine Nakadani and Cote because both are directed to improving clutch responsiveness in truck transmissions. Davis never addresses which parts of each prior art reference would have been obvious to use, or why it would have been obvious to disregard other teachings from the same references. In particular,

Davis does not offer an explanation to justify disregarding Cote's teaching of uncontrolled rapid movement from the disengaged position to the TP and replacing it with the claim 9 technique.

The Court finds that the record evidence on this issue is very limited. That may be partly because the issues were not a central part of the argument developed before the Special Master or this Court previously, or because they were addressed late in the process, but there is a lack of specific, meaningful expert testimony which makes it impossible for the Court to analyze the issues as done in KSR.

KSR admonishes that obviousness analysis should be grounded in "common sense," but the Court is not convinced that defendants have demonstrated as yet that it would have been reasonable for one of ordinary skill in the art to combine the teachings of the prior art in such a way to move the clutch rapidly from a resting position at the Nakadani AP directly to the Cote TP and then to modulate its engagement from there. The prior art contains multiple, conflicting, elements, and defendants have not satisfied their obligation at this point in the litigation to show why it would have been obvious to chose certain ones in combination. Because there are issues of fact remaining as to obviousness, summary judgment is DENIED.

III. Infringement

Plaintiff previously filed a motion for summary judgment of literal infringement of claims 1, 2, 8 and 9 of the '350 patent. The motion was referred to the Special Master, who found two significant issues of fact and recommended that the motion be denied. Plaintiff filed objections to this recommendation. The Court adopted the Special Master's recommendations that claim 1 is invalid as anticipated and claim 2 is invalid as obvious. These holdings were not challenged by plaintiff. In light of the holdings in this

opinion above, that claims 8 and 9 are not invalid as anticipated, but that there is an issue of fact regarding their validity for obviousness, the Court will now address literal infringement of claims 8 and 9.

There are two issues with regard to literal infringement of claims 8 and 9 of the '350 patent by defendants' FreedomLine transmission system. First, the parties dispute whether the FreedomLine system determines a TP and AP, as those terms have been defined in claim construction. The second issue is whether the FreedomLine clutch functions to "assume and reside at an approach point while awaiting a clutch engagement command" within the meaning of the claims.

A. Determine a TP and AP

The term "touch point" was construed to mean "a point of incipient engagement of the clutch and requires some minimum amount of torque transfer across the clutch." The term "approach point" means "a point intermediate full disengagement and the touch point, preferably about to the touch point."

The point of initial engagement between the clutch and input transmission shaft in the FreedomLine, called the Mitnahmepunkt or MIT point, is described as having "enough torque to spin the transmission input shaft up to 400 rpm, which is two thirds of engine idle speed". Defendants argue that such "significant" torque transfer is not "minimal" torque transfer within the meaning of the claim and that the MIT point is therefore not a TP. Plaintiff does not dispute defendants' contention that shaft acceleration occurs up to 400 rpm, but offers no explanation how such can occur with minimal, rather than significant, torque. The Special Master did take note of tests conducted by plaintiff, not in the record, that allegedly show that the MIT point has "10 pounds of torque". These results are of course disputed by defendants.

Plaintiff contends that MIT is a TP because it is a point of “initial torque transfer” and therefore a point of “minimal amount of torque.” Plaintiff points to defendants’ own specification document, entitled “Clutch Functionality”, which refers to the MIT tripping point as the point where “initial torque transfer” occurs:

there is an initial torque transfer through the clutch, as a result of which the transmission input shaft is accelerated. The clutch position at which the transmission input speed exceeds a threshold is designated as the tripping point.

Plaintiff contends that such a point that provides an initial torque transfer is a TP.

Defendant’s specification documentation, however, further defines MIT as the tripping point at which there is “torque sufficient for greatly accelerating the lay shaft”.

Defendants argue this amount of torque is too much to be a TP.

Plaintiff’s Dr. Caulfield agrees that a TP must be a point of incipient engagement and cannot be a point that requires transfers of large amounts of torque. The Special master considered all of this evidence and found there to be issues of fact. This Court agrees that based on the evidence before it, especially in view of the disagreement among the experts, there are significant issues of material fact whether the FreedomLine system defines a TP. The parties agree that AP is defined with reference to TP, so there can be no AP without a TP. Thus, there is also an issue of fact whether the FreedomLine system defines an AP within the meaning of the claim.

B. Assume and Reside at AP While Awaiting Clutch Engagement Command

In the ‘350 system, when the clutch is disengaged with the expectation of a new gear engagement, the clutch moves to and dwells at the AP while it awaits a command to start a new clutch engagement. Thereafter upon a command to engage the clutch, the clutch moves quickly from the AP where it has been residing to the TP and

thereafter, in modulated movement, to full engagement with the input shaft.

According to defendants, the FreedomLine system operates differently: when the clutch disengages in preparation for a gear change, the clutch moves to fully disengaged position (Ruhepunkt) where it stays until a new clutch engagement command is received. After the new engagement command, the clutch moves uninterrupted toward engagement with the input shaft, unless lack of synchronization between the engine and input shaft speeds is detected in which event the clutch holds at the AP until synchronization is achieved. Thereafter, the clutch continues to move on toward the TP and finally to modulated closure with the input shaft.

Dr. Caulfield disagrees with defendants, explaining that when the clutch disengages in anticipation and preparation for a gear change, the clutch moves first to the fully disengaged position. Thereafter, “depending on the mode of operation”, the “algorithm with either cause the clutch to dwell at the . . . [fully disengaged] position, or at the . . . [AP] position that is closer to the [TP]”. Then, upon an engagement command, the clutch moves from either the fully disengaged or the AP, where it was dwelling, toward the TP. Plaintiff points to the declaration of defendants’ software expert Dr. Locke, to support plaintiff’s position that the FreedomLine processor commands the clutch to all of the different positions (e.g. closed, open, AP). Plaintiff contends that the FreedomLine system does issue a command to close the clutch from AP.

Defendants clarify Dr. Locke’s testimony as explaining that “the [AP] is not a position where the clutch remains and waits for a clutch engagement command, but rather the clutch engagement command starts clutch engagement from the [fully disengaged] to full engagement and the TCU [processor] checks whether synchronous

conditions have been achieved by the time the clutch nears [AP].” This is different than stating that the processor commands the clutch to engage after waiting at the AP.

There is an issue of fact whether the clutch receives an engagement command while it is waiting at AP in the FreedomLine system. The Special Master recommended that summary judgment of literal infringement be denied for this reason as well, and the Court agrees over plaintiff’s objections.

IV. Conclusion

For the reasons stated, plaintiff’s motion for reconsideration of the Court’s anticipation finding as to claims 8 and 9 of the ‘350 patent is GRANTED. The Court finds an issue of fact whether claims 8 and 9 are invalid for obviousness. Finally, the Court DENIES plaintiff’s motion for summary judgment of literal infringement of claims 8 and 9 of the ‘350 patent.

Dated: September 19, 2007

S/George Caram Steeh
GEORGE CARAM STEEH
UNITED STATES DISTRICT JUDGE

CERTIFICATE OF SERVICE

Copies of this Order were served upon attorneys of record on September 19, 2007, by electronic and/or ordinary mail.

s/Josephine Chaffee
Deputy Clerk